

LISTING OF THE CLAIMS:

Please cancel claims 10-14, without prejudice or disclaimer, and amend claims 1-9, which replaces all prior versions and listings of claims in the application:

1. (Currently amended) A mutual authentication method for use between a recording apparatus which records copied contents ~~on~~ in a memory card as a removable recording medium having an arithmetic processing function, and the memory card ~~removable recording medium~~, said method comprising ~~the steps of~~:
 - storing₁ in a first semiconductor memory in the memory card ~~the removable recording medium₁~~, at least first information which depends on the memory card ~~removable recording medium₁~~; and
 - storing, in a second semiconductor memory in the memory card, second information which is to be shared by the recording apparatus in executing mutual authentication with the recording apparatus and depends on the memory card ~~removable recording medium~~; and
 - generating₁ by the recording apparatus₁ authentication information used in mutual authentication with the memory card ~~removable recording medium~~ on the basis of ~~only~~ the first information obtained from the memory card ~~removable recording medium~~, and executing mutual authentication between the recording apparatus and the memory card ~~removable recording medium~~ using the generated authentication information and the second information, wherein executing the mutual authentication includes ~~the steps of~~
 - generating a random number in the recording apparatus and
 - transferring the random number to the memory card ~~removable recording medium~~,

generating a first function in the recording apparatus using
the generated authentication information and the
generated random number,

generating a second function, by the arithmetic processing
function of the memory card in the removable-
recording medium, using the generated second
information and the transferred random number, and
transferring the second function to the recording
apparatus, and

comparing the generated first function with the generated
second function in the recording apparatus.

2. (Currently amended) The method according to claim 1, further comprising ~~the step~~
~~of:~~

generating the authentication information by encrypting the first
information using an encryption key obtained from the memory card
~~removable-recording medium.~~

3. (Currently amended) A mutual authentication method for use between a reproducing apparatus which reproduces copied contents recorded ~~on~~ in a memory card as a removable recording medium having an arithmetic processing function, and the memory card ~~removable recording medium~~, said method comprising ~~the steps of:~~

storing₁ in a first semiconductor memory in the memory card ~~the-~~
~~removable recording medium₁~~, at least first information which
depends on the memory card ~~removable recording medium₁~~; and

storing₁ in a second semiconductor memory in the memory card, second
information which is to be shared by the reproducing apparatus in
executing mutual authentication with the reproducing apparatus
and depends on the memory card ~~removable recording medium~~;
and

generating₁ by the reproducing apparatus₁ authentication information used
in mutual authentication with the memory card ~~removable recording-~~
~~medium~~ on the basis of ~~only~~ the first information obtained from the
memory card ~~removable recording medium~~, and executing mutual
authentication between the reproducing apparatus and the memory
card ~~removable recording medium~~ using the generated
authentication information and the second information, wherein
executing the mutual authentication includes ~~the steps of~~

generating a random number in the reproducing apparatus
and transferring the random number to the memory
card ~~removable recording medium~~,

generating a first function in the reproducing apparatus using
the generated authentication information and the
generated random number,

generating a second function, by the arithmetic processing
function of the memory card ~~in the removable-~~
~~recording medium,~~ using the generated second
information and the transferred random number, and
transferring the second function to the reproducing
apparatus, and

comparing the generated first function with the generated
second function in the reproducing apparatus.

4. (Currently amended) The method according to claim 3, further comprising ~~the step~~
of:

generating the authentication information by encrypting the first
information using an encryption key obtained from the memory card
~~removable recording medium.~~

5. (Currently amended) A recording apparatus for recording copied contents on in a memory card as a removable recording medium having an arithmetic processing function while limiting the number of copied contents to be recorded on the memory card ~~removable recording medium~~, said apparatus comprising:

generation means for generating authentication information, which is used in mutual authentication with the memory card ~~removable recording medium~~ and is to be shared by the memory card ~~removable recording medium~~, on the basis of ~~only~~ first information which is obtained from the memory card ~~removable recording medium~~ and depends on the memory card ~~removable recording medium~~, the first information being stored in a first semiconductor memory in the memory card; and

mutual authentication means for executing mutual authentication with the memory card ~~removable recording medium~~ using the authentication information generated by said generation means, wherein the mutual authentication means includes

means for generating a random number and transferring the random number to the memory card ~~removable recording medium~~,

means for generating a first function using the generated authentication information and the generated random number,

means for receiving₁ from the memory card ~~removable recording medium~~₁ a second function generated by the arithmetic processing function of the memory card using second information and the transferred random number, the second information being stored in a

second semiconductor memory in the memory card,

and

means for comparing the generated first function with the
received second function.

6. (Currently amended) An apparatus according to claim 5, wherein said generation means generates the authentication information by encrypting the first information using an encryption key obtained from the memory card ~~removable-recording medium~~.

7. (Currently amended) A reproducing apparatus for reproducing copied contents recorded on in a memory card as a removable recording medium having an arithmetic processing function while limiting the number of copied contents to be recorded on the memory card ~~removable recording medium~~, said apparatus comprising:

generation means for generating authentication information, which is used in mutual authentication with the memory card ~~removable recording medium~~ and is to be shared by the memory card ~~removable recording medium~~, on the basis of ~~only~~ first information which is obtained from the memory card ~~removable recording medium~~ and depends on the memory card ~~removable recording medium~~, the first information being stored in a first semiconductor memory in the memory card; and

mutual authentication means for executing mutual authentication with the memory card ~~removable recording medium~~ using the authentication information generated by said generation means, wherein the mutual authentication means includes

means for generating a random number and transferring the random number to the memory card ~~removable recording medium~~,

means for generating a first function using the generated authentication information and the generated random number,

means for receiving, from the memory card ~~removable recording medium~~, a second function generated by the arithmetic processing function of the memory card using second information and the transferred random number, the second information being stored in a

second semiconductor memory in the memory card,

and

means for comparing the generated first function with the
received second function.

8. (Currently amended) An apparatus according to claim 7, wherein said generation means generates the authentication information by encrypting the first information using an encryption key obtained from the memory card ~~removable recording medium~~.

9. (Currently amended) A memory card as a removable recording medium having an arithmetic processing function, comprising:

storage means for ~~pre-storing~~ including a first semiconductor memory storing first information which is unique to said memory card ~~removable recording medium~~, and a second semiconductor memory storing second information which is to be shared by a recording apparatus for recording copied contents on said memory card ~~removable recording medium~~ and a reproducing apparatus for reproducing the copied contents in executing mutual authentication among the memory card ~~removable recording medium~~, the recording apparatus, and the reproducing apparatus, and depends on said memory card ~~removable recording medium~~; and

mutual authentication means for executing mutual authentication between the memory card ~~removable recording medium~~ and the recording apparatus, and between the memory card ~~removable recording medium~~ and the reproducing apparatus using authentication information generated based on ~~only~~ the first information by the recording apparatus and the reproducing apparatus, and the second information, wherein the mutual authentication means includes

means for generating random number and transferring the random number to one of the recording apparatus and the reproducing apparatus,

means for generating a first function by the arithmetic processing function of the memory card using the second information and the generated random number,

means for receiving from the one of the recording apparatus
and the reproducing apparatus a second function
generated using the authentication information and
the transferred random number, and

means for comparing the generated first function with the
received second function.

10-14. (Canceled)